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Foreign Direct Investment in Banking
in California*

Adrian E. Tschoegl
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1.0 Introduction

This paper investigates foreign direct investment (FDI) in banking in California.⁽¹⁾ The topic is of practical and theoretical interest.

Foreign banks are increasing their presence in the United States. This phenomenon has given rise to concern among domestic bankers, regulators, and lawmakers. It seems worthwhile to add to the discussion some information on the factors that may influence a foreign bank's decision to enter the US.

The current theories of FDI have been developed to explain its occurrence in manufacturing industries. With only a few exceptions [Grubel, 1977 and Aliber, 1973], multinational banking has drawn little theoretical attention. Most studies, such as Lees [1977], Terrell and Key [1977], Hang-Sheng Cheng [1975], and Eiteman [1978] have tended to be descriptive and qualitative. The many theoretical discussions of FDI have concentrated on factors internal to the investing firm which give it an advantage over its local competitors. While we will continue in this tradition, we also consider external factors that create situations from which perhaps only foreign firms can benefit.

We chose California for two reasons. First, it is relatively open to foreign banks and many have established operations there. Second, it permits us to distinguish two sub-markets and to investigate each separately. Somewhat following Grubel [1977], we can think of FDI in banking as operating in the wholesale, corporate, and retail markets. California is not a major world financial center. Therefore, the

desire to take part in the wholesale market is at most a minor motive for a bank's presence in the state. Furthermore, we can, to a reasonable degree, associate operations in each of the other two sub-markets with the organizational form the foreign bank adopts.

Section 2 describes the foreign banking sector in California. The third section discusses theories of FDI and common explanations for its occurrence in banking. Section 4 tests some of these theories statistically using regression models of the decision to open an agency or a subsidiary in the state. Section 5 is a summary.

2.0 Foreign Banks in California

2.1 Size of the Foreign Sector

Foreign banks first entered California in the mid-nineteenth century. Rothschilds established a branch in San Francisco in 1849. The Hongkong and Shanghai Banking Corporation entered in 1875 and has remained ever since. In the 1870's, the Yokohama Specie Bank (an ancestor of the Bank of Tokyo) also opened a branch. The first Canadian bank to enter, the Canadian Imperial Bank of Commerce, did so in 1902. In the post-World War II period, the Sumitomo Bank and the Bank of Tokyo established subsidiaries in 1953.

Even so, the pace of expansion was relatively slow until the first half of the 1970's, as the following tables show. Table 2.1 gives the development of the number of agencies and subsidiaries from 1965 to 1977.

Insert Table 2.1

Several of the subsidiaries, agencies, and representative offices have the same parent. We will discuss below the differences between the organizational forms. Several banks have two agencies, or an agency and a representative office, with one being located in San Francisco and the other in Los Angeles. One interesting fact that emerges from the table is that not only did the number of banks establishing a presence increase, but the number of branches per California subsidiary

Table 2-1

Subsidiaries, Agencies, and Representative Offices, 1965-77

| | <u>1965</u> | <u>1970</u> | <u>1975</u> | <u>1977</u> |
|---------------------------|-------------|-------------|-------------|-------------|
| Subsidiaries | 6 | 7 | 15 | 16 |
| Branches/ Subsidiary | 3.67 | 8.14 | 16.47 | 21.15 |
| Agencies | 9 | 14 | 44 | 54 |
| Representative Offices | NA | 17 | 22 | 21 |

Source: Southern California Research Council (SCRC), Report 23 (1975),
Institutional Investor, and American Banker.

also increased.

Table 2.2 presents the banks' activity in dollar terms, and Table 2.3 the share by region of origin.

Insert Tables 2.2 and 2.3

In 1977, 17 Japanese banks had a Californian presence, as did 6 British banks, 8 Canadian, 4 each from Germany and Italy, 3 each from Switzerland, Brazil, Hong Kong, Korea, and France, 2 each from Holland, the Philippines, Australia, and Israel, and 1 each from Iran, India, and Thailand.

2.2 Organizational Form and Ownership

California recognizes four organizational forms: representative office, agency, branch, and subsidiary.

The foreign banks wholly-own their representative offices, agencies, and branches. These are integral parts of their parents. Unlike subsidiaries, they are not separate legal persons with limited liability. Six banks share two agencies but they do so via joint ownership of a New York company which in turn wholly-owns the agencies.(2)

Representative offices may not conduct banking proper, i.e., they neither accept deposits nor make loans or investments. Instead, they

Table 2-2

Foreign Bank Activity in California
(US\$ million, and market share by %)

| | <u>June 1965</u> | <u>June 1970</u> | <u>June 1975</u> |
|--------------|------------------|------------------|------------------|
| Subsidiaries | | | |
| Assets | 504.0 | 1,071.9 | 4,489.4 |
| Market Share | 1.31 | 2.0 | 4.55 |
| Loans | 263.5 | 610.5 | 2,830.6 |
| Market Share | 1.16 | 1.97 | 5.20 |
| Deposits | 434.6 | 908.1 | 3,804.5 |
| Market Share | 1.27 | 2.07 | 4.70 |
| Agencies | | | |
| Assets | 329.3 | 1,598.0 | 8,289.4 |
| Market Share | 0.8 | 2.98 | 8.4 |
| Loans | 168.4 | 398.5 | 4,309.3 |
| Market Share | 0.74 | 1.29 | 4.37 |
| Total | | | |
| Assets | 833.3 | 2,669.9 | 12,778.8 |
| Market Share | 2.11 | 4.98 | 12.95 |
| Loans | 431.9 | 1,009.0 | 7,139.9 |
| Market Share | 1.9 | 3.26 | 9.57 |

Source: SCRC

Table 2-3

Foreign Banks in California

Distribution of Assets and Loans
(as of June 30, 1976, in US\$ millions)

| | <u>Asia</u> | <u>Europe</u> | <u>Canada</u> | <u>Latin America</u> | <u>Total</u> |
|----------|------------------|------------------|----------------|----------------------|------------------|
| Assets | 9,363.1 65.6% | 3,183.3 22.3% | 955.2 6.7% | 775.7 5.4% | 14,277.3 100% |
| Loans | 5,486.1 64.9% | 1,798.5 21.3% | 919.7 10.9% | 247.4 2.9% | 8,451.7 100% |
| Agencies | 21 | 16 | 6 | 6 | 49 |
| Subs | 8 | 4 | 3 | 0 | 15 |

Source: California State Department of Banking, Annual Report, 1976.

perform liaison, intelligence, and customer solicitation functions for their parents.

Agencies engage in lending and most types of banking activity. Some are authorized to accept foreign deposits, though none may hold domestic ones. The agencies may, however, hold temporary 'credit balances' for their customers when these arise in the course of normal business. Agency loan limits are based on their parent's capital resources. Thus they may make larger loans than the subsidiary banks since the latter's limits are based on their own capital accounts. Of the fifteen foreign subsidiaries, fourteen have an associated agency. Only Lloyds Bank, whose subsidiary is very large has dispensed with one. Two Japanese banks with a minority shareholding in a subsidiary each have an agencies. The combination of organizational forms is complementary and enables the parent to, in effect, operate a full branch.

Some banks have established branches. Technically, branches differ from agencies in that they may accept domestic deposits. California law, however, requires that these be insured by the Federal Deposit Insurance Corporation (FDIC). Until recently, this insurance was not available to foreign banks. Being unable to accept such deposits, the branches thus were de facto agencies.

Subsidiaries are incorporated and operate under state charters. They are eligible for Federal Deposit Insurance and are allowed to conduct a full range of banking activities. None sought national charters. Until the change in U.S. law in 1978, the requirements for a national

charter were too restrictive.(3)

Of the subsidiaries existing in 1976, only two were not 100% owned by their parents. The Sumitomo Bank and the Bank of Tokyo own 55.2% and 74.7% respectively of their subsidiaries. In addition, thirty-two Japanese firms, including two banks (Dai-Ichi Kangyo and the Long-Term Credit Bank), own Japan California Bank. Each shareholder has less than 5% (See Appendix C).

In addition to these subsidiaries, foreign individuals own four banks. These are very small, though. In 1973, they represented 0.34% of deposits in California. Finally, Edmond de Rothschild (of the French branch of the family) directly or indirectly owns 28% of BanCal Tri-State Corporation, the holding company for the Bank of California.

2.3 Regulation(4)

While no Federal laws or regulations apply directly to representative offices or agencies, California law requires that both must be licensed by the State Superintendent of Banks. Foreign parent banks must allocate and assign to their agencies a portion of their home country capital and surplus equal to the amount that would be required of a domestic bank on commencement of operations. They must keep separate all books and records of account pertaining to California business from those relating to business outside the State, and must keep separate their assets from those of their parents.

California holds foreign subsidiaries and domestic banks seeking to

establish themselves as commercial banks to the same requirements. The bank must satisfy the Superintendent that its establishment will promote the public convenience and advantage, and that business conditions and the knowledge, ability, and standing of the proposed officers and directors are such that it has a reasonable chance of success.

The requirement that a bank have Federal Deposit Insurance if it wishes to hold deposits automatically brings subsidiaries under Federal regulation. As US chartered institutions, foreign subsidiaries come under the provisions of the Bank Holding Company Act (BHCA) of 1956, as amended in 1970. This Act defines a bank holding company as any company which has control over a domestic bank.(5) Any foreign bank, which wishes to establish or acquire a US banking subsidiary must receive Federal Reserve approval to do so since having such a subsidiary automatically makes it a bank holding company. The Federal Reserve Board of Governors' list of permissible nonbanking activities applies equally to foreign and domestic bank holding companies, as does the prohibition on interstate banking. This means that a foreign bank may not maintain a banking subsidiary and a securities affiliate in the US, or banking subsidiaries in two or more states. The BHCA 'grandfathered' existing interstate operation of subsidiaries by five foreign and six domestic bank holding companies.(6) Even with the Act, foreign banks, unlike domestic banks, could maintain a subsidiary (banking or securities) in one state and branches and agencies in the same state or others.(7)

Under the International Banking Act of 1978, the Federal Reserve Board

has the authority to impose Federal Reserve System reserve requirements on all US branches and agencies of foreign banks that have more than US\$1 billion in worldwide assets. The banks will have access to Federal Reserve services. Branches of foreign banks that accept deposits of less than \$100,000 will be required to have federal deposit insurance except that branches not engaged in domestic retail deposit activities can be exempted. However, branches of foreign banks will be allowed to accept domestic deposits in only one state though they will be able to operate as agencies in others.(8)

2.4 Reciprocity

Under California law, the Superintendent may take into account in granting licenses to operate whether the foreign bank's home country permits US banks to establish branches or subsidiaries there. Examination of the regulations of such countries as Canada, Australia, and Mexico indicates that there would be grounds for barring their banks from operating in California. Conversations with some Department officials indicate that generally the department does not even consider the issue when examining applications for entry.(9)

2.5 Operations

2.5.1 Representative Offices

The California Superintendent reports that their contacts are "generally limited to larger, internationally-oriented American banks and corporations".(10) They solicit business for their parents in the

form of correspondent balances, deposits, and loans, promote trading relationships, and assist in making business and banking contacts for Californians abroad and foreigners locally. The offices also gather information on the activities of competitors and on the local financial and economic situation. Many banks have entered California with representative offices, which are relatively inexpensive to establish and maintain, and have then upgraded them as business developed.

2.52 Agencies

Table 2.4 below lists the agencies' primary activities in 1974 and the reported number involved in each. Loan participation was the most frequent activity, with the agencies providing overlines for correspondent or affiliated banks.

Insert Table 2.4

Agency loans went to American banks and large corporate borrowers, particularly in the foreign trade area. Other principal categories of customers included American subsidiaries of home-country corporations and foreign subsidiaries of American corporations.(11)

The Japanese agencies reportedly finance the trading companies with which their parent banks are associated.(12) Similar, though even looser, ties occur in the case of European banks, especially the French and German ones.

Table 2-4

Agencies' Primary Activities
(1974)

| Service | Agencies Involved |
|-----------------------|-------------------|
| Loan Participation | 19 |
| Commercial Lending | 16 |
| Foreign Exchange | 8 |
| Transmission of Funds | 6 |

Source: Superintendent of Banking, 65th Annual Report, 1974, p. 54.

Agencies rely heavily on borrowed funds to support their California operations. As of June 30, 1976, borrowed funds accounted for approximately 81% of the \$8.3 billion of agency liabilities. Japanese agencies seemed to depend on lines of credit from US banks and on the Eurodollar market. European banks drew on the Eurodollar market, but often the funds came from their parents. The European American Bank used the deposits of the bank it owns in New York.(13)

The California Superintendent of Banks further reported that the agencies saw as the greatest source of competition other foreign banks and domestic banks with facilities in both their home countries and the US. None considered itself in competition with independent banks not engaged in international business.(14)

2.53 Subsidiaries

Foreign bank subsidiaries have offices throughout the state in areas generally experiencing rapid rates of population growth.(15) They tend to focus their business on larger firms, but compete in all types of banking. The Southern California Research Council (SCRC) reports that, in contrast with other California banks, foreign banks' portfolios are heavily weighted toward real estate and commercial lending.(16)

Their main source of funds were domestic deposits. The distribution by type of deposit closely approximated that of all California banks. Foreign banks, however, held a slightly lower proportion of individual savings accounts than did their domestic counterparts.(17)

While officers of large banks by-and-large welcome the expansion of foreign banking activity, many representatives of smaller banks view the retail competition as unnecessary at best, and as damaging at worst.(18) Community banks are especially vulnerable to market share loss because of their relatively small geographic base. The State Banking Department has, however, discovered no instance in which an authorized additional facility has resulted in competition destructive to banks already in the community involved.(19) The department's policy of requiring that a new branch appear viable and promote the public advantage and convenience protects existing institutions in stagnant or low-growth areas. Moreover, much foreign expansion is via takeover of existing banks. This obviously has no effect on the number of branches in a community. In 1976, of some 330 branches of foreign banks, over 200 were the result of acquisitions.

Foreign-owned state-chartered banks have used generally accepted competitive techniques such as lower cost checking accounts and automobile loans, and widespread advertising campaigns.(20)

3.0 Theory

According to Hymer [1976] and Kindleberger [1969], if companies wish to compete in a foreign market against local firms they must possess some form of quasi-monopolistic advantage to overcome their disadvantages vis-a-vis their competitors. This proposition consists of an unstated condition, two assumptions, and a consequence. The conditional statement is simply 'Given that the receiving country permits FDI, then ...'. The two assumptions are the existence of: 1) local competition, actual or potential, and 2), non-trivial differential costs between foreign and local firms. The consequence is that to compete successfully, the foreign company must possess some advantage the returns to which it can appropriate more fully by FDI than by some market transaction. In this section, we will discuss these aspects with reference to banking in general and California in particular.

Academic theories have tended to emphasize factors internal to the foreign firm which give it an advantage over local firms. In addition to discussing these, we will draw attention below to some external factors which have the effect of encouraging foreign bank entry, even when the foreigners possess no other advantage over the locals.

3.1 Receptivity

It is interesting that few of the statistical investigations of FDI consider the question of receptivity. Most such studies involve only a pair of countries at most. In this context, it is quite understandable that researchers have ignored the question. However it is clearly

dangerous to assume that a country is equally open across all sectors and to all origins just because it permits some foreigners to operate in some industries. Almost all countries bar foreigners from some sectors and severely restrict their activities in others.

Receptivity is a major factor in FDI in banking. This is a heavily regulated industry in most countries of the world because of its important role in monetary policy and investment, and because of concerns about depositor safety. Many countries that permit FDI in manufacturing, or even in other service industries, nevertheless severely limit it in banking if they permit it at all. Different rules may also apply depending on the investor's parent country with the determining factor being its openness to investment from the receiver.

3.2 Competition

The first element in the Hymer/Kindleberger proposition is the assumption of the existence of local competition. Frequently, especially in the case of manufacturing in Less Developed Countries (LDCs), there are no local firms capable of providing effective competition. Foreign-owned banks established themselves in many LDCs when the countries were colonies. They have remained ever since. In doing so, they have often pre-empted the market. Even where this is not the case, their long residence means that they are at no disadvantage vis-a-vis the domestically-owned banks in their knowledge of the local environment.

A perhaps more interesting case, because it is less obvious, may occur

when there are local firms which do not, however, choose to compete. We will discuss this possibility in the subsection on external product market imperfections below.

3.3 Costs

The second element is the assumption that foreign firms face higher costs than do local firms. These costs derive from the fact that the foreign firms must operate at a distance and in an environment that is culturally, politically, legally, and economically different from their own. This assumption seems eminently reasonable and all discussions of FDI have accepted it as fact. Horst [1972] did find that US firms tended to use a Canadian subsidiary as a stepping stone to investing in other countries. Franko [1975] argues that UK firms are very unlikely to locate in contiguous countries but are much more likely to have subsidiaries in Commonwealth countries. Ozawa [1975] found that Japanese firms tended to open their first subsidiaries in South East Asia. These results support the notion that these costs are important. Even so, and despite the widely acknowledged importance of the foreign environment to the FDI decision, there is no trace in the literature of any attempt to measure the costs' magnitudes and determinants.

Banking is a relatively old industry. One of the banks in the sample, Monte dei Paschi di Siena, traces its corporate history back to 1472. International banking, in the sense of having offices in other countries to finance trade, also is quite old. The foreign bank with the longest continuous foreign presence in California (since 1875) is the Hong Kong and Shanghai Banking Corporation. Appendix A gives a

summary of the history of its overseas expansion. This bank has been operating at a distance and in other cultural environments for over a hundred years.

Over time one can expect it, and like firms, to develop administrative technologies that will enable them to conduct their international operations at minimum cost. Similarly, after several years in a country their knowledge of the local environment will equal that of any other firm. Moreover, the foreign firm can often hire in local staff with the requisite knowledge without necessarily paying any premium.

Nevertheless, the very fact of foreign origin may be a source of disadvantages. Domestic regulations, or their enforcement, may discriminate against foreign firms. In addition, potential customers may harbour irrational prejudices against foreign firms.

On the other hand, the legal situation, *de jure* and *de facto*, may be neutral towards, or even favor, foreign firms. The latter situation is unusual, but not impossible. It certainly pertains to a degree in banking in the US. Similarly, customers may have a neutral or favorable attitude towards a firm's origin, if they are even aware of it.

While the argument that foreign firms face greater costs is intuitively appealing, one cannot accept it uncritically. The extra costs will be a function of the firm's nationality, industry, and corporate history. For some companies they may even approach zero.

3.4 Advantages

The third element of the proposition is the advantage the returns to which the foreign firm can appropriate more fully by FDI than by some market transaction.

3.41 Internal Advantages

In this Section we discuss the role of commercial knowledge, differentiated products, and economies and diseconomies of scale. These factors are internal to the firm since they have no existence outside of the firm which embodies or creates them. They reflect imperfect factor and output markets. Some are unsaleable, like economies of scale. Others, like commercial knowledge, are saleable in principle but are subject to the problems of imperfect markets.

3.411 Factor Market Imperfections - Commercial Knowledge

3.411 Commercial Knowledge

Much of the recent literature on FDI has emphasized the importance of factor market imperfections, especially in the markets for information, commercial knowledge, or technology (Johnson[1970], Buckley & Casson [1976], and Magee [1977]).

Since most of the literature deals with manufacturing, it has concentrated on the role of R&D or technology. Physical technology is

of relatively little importance in banking. While some banks do use computers and systems built on them, these are marketed by specialist firms which operate internationally. In any case, if this factor has any effect, it is probably to put foreign banks at a disadvantage vis-a-vis US banks.

Commercial knowledge -- that is, information about firms and foreign markets -- would seem to hold more explanatory power. Over time, a bank builds up a stock of knowledge about its customers. When they go abroad and it follows, the bank has an advantage vis-a-vis its local competition in servicing its customers. It can draw on the information it already possesses quickly and at low marginal cost and thus is better able than others to respond to their needs, be they loans or operational requirements.(21) Moreover, if the foreign bank does not follow it gives other banks an entre. The foreign bank can also sell to host country firms its knowledge of its home market. Finally, it may have better access to third-country markets than US banks for reasons of history or politics.

Traditionally, banks have conducted much of their international business via correspondent relationships with domestic banks in other countries. The foreign and domestic banks route business through each other. The relationship is not necessarily exclusive and both banks may have several correspondents in the other's country. This is still a very common modus operandi, even for banks with many foreign branches, and works quite well for standardized transactions like money transfers and letters of credit.

3.412 Output Market Imperfections - Product Differentiation

Caves [1971] has argued that product differentiation is one source of advantage. Grubel [1977] maintains that it is of special importance in explaining multinational retail banking. As he himself points out though, a competitive advantage based purely on product differentiation is rather precarious since innovative responses by local firms may easily curtail it.(22) For it to be useful, the differentiation must be one that the domestic industry cannot easily copy.

National origin itself meets this requirement. Its origin may give the foreign bank an appeal to subsets of the population - either related ethnic minorities, or other groups who attribute some special value to the nationality. California provides examples of both situations.

Bank of Tokyo and Sumitomo Bank began their California operations by catering to the needs of the State's Japanese minority. Bank Leumi-Le-Israel has its agency in Beverly Hills, a heavily Jewish neighbourhood. It is the only agency not located in Los Angeles or San Francisco proper. The Korea Exchange Bank has its subsidiary in a section of Los Angeles that is heavily Korean. Careful analysis of other foreign banks' location patterns would probably turn up more such cases.

The French Bank of California (a subsidiary of Banque Nationale de Paris), is an example of national origin appealing to other groups in the population. This bank has placed its four branches in very wealthy communities. It perhaps feels that these are where it is most likely

to find customers who will bank with it because of the cachet that doing so may have.

In all of these cases, one could argue that the operative factor is the special knowledge that the foreign bank has by virtue of its origin. Nevertheless, one cannot rule out the operation of such intangible and subjective factors as nationalism and national image.

Ethnicity, however, is double-edged. While giving preferred access to one segment of the population, it may reduce the bank's appeal to the remainder. The two largest Japanese-owned banks began as purely ethnic banks with 90% of their customers being Japanese-Americans.(23) Neither is one now. Sumitomo Bank of California reported, in 1975, that 60% of its new accounts were opened by other than Japanese-Americans.(24) The Bank of Tokyo of California doubled its size in 1975 by acquiring the Southern California First National Bank and promptly changed its name to California First Bank.

3.413 Economies and Diseconomies of Scale

Since many of the banks involved in FDI are large, one might look to general internal economies of scale as an explanatory factor. This would require that 1) economies of scale exist, and 2), that the foreign banks be larger than their domestic counterparts. Appendix D presents some limited empirical evidence which indicates that if there are general economies of scale, which is by no means clear, their effect is to put foreign banks at a disadvantage in California. Moreover, foreign banks possess no size advantage over California

banks. The world's largest bank, Bank of America, is Californian. The next five or six banks in the state are all in the top 100 in the world (ranked in terms of assets less contra-accounts).

There is anecdotal evidence that agencies can better handle international operations (letters of credit, money transfers, etc.) than can their domestic competitors, with the explanation being diseconomies of scale in clerical operations.

Our small organization tends to improve the quality of services. We can trace a transaction within hours for a customer, versus days for a larger bank.(25)

While this is certainly true, one cannot make too much of it. First, it is self-limiting in that the agency loses its advantage as it becomes successful and grows. Second, much of the efficiency is due to the use of over-qualified personnel, that is, the agency's officers. At the beginning, the agency has few clerical personnel and officers handle operations. The opportunity cost of the officers' time is low and the revenue so generated helps defray overhead. As business develops, the officers spend more and more of their time on higher-value activities, such as making loans. An expanded clerical staff takes over operations and in time the personnel advantage too is lost.

3.42 External Advantages

We wish in this Section to emphasize the role of advantages external to the firm. These contribute to the foreign firms' ability to compete in

the local market. However they are not really advantages in the Hymer-Kindleberger sense. The firm has no assignable property right in the advantages and cannot sell them. They may even require the act of investment in order to come into existence.

3.421 Factor Markets - Financial Market Imperfections

Kohlhagen [1977], amongst others, drew attention to the effect of devaluations and revaluations, prior to the recent widespread use of floating exchange rates, on flows of FDI. Countries that maintain over-valued exchange rates subsidize outward, and tax inward, flows of FDI. It is interesting to note that much of the banking FDI in California occurred after the devaluations of the dollar relative to the yen and a number of European currencies. Other factors obviously played a part, but the direction and timing of the flow is consistent with this theory.

Renazzi [1973], and Agmon and Lessard [1976] focus on securities markets imperfections as causes of FDI. If individuals cannot diversify their portfolios themselves because of transactions costs or foreign exchange controls, but can invest in domestic companies that can operate internationally, the latter can charge a premium for the diversification service they provide.

3.422 Output Market Imperfections - Oligopolistic Host Markets

As mentioned earlier, foreign firms may be able to survive because local firms choose not to compete. The model here is one of a dominant

oligopoly with fringe producers. If the dominant firms have established a modus vivendi with each other, they may tolerate some new entrants because acting against them would mean disrupting the cartel, or might result in government anti-trust action. As a result, foreign firms, though higher-cost producers than the oligopolists, may be able to survive under the price 'umbrella' the former have erected. Table 3.1 gives four and eight-firm concentration ratios for the banking industry in California from 1970 to 1976. Both are very high for all years. While they do not prove the presence of oligopoly, they do indicate its basic feasibility.

Insert Table 3.1

Entry by new and foreign banks has continued throughout the period 1970-1976. As we discuss in Section 3.4241 below, these are the only possible entrants because of the prohibition on inter-state banking. The foreign banks may even have an advantage over local entrepreneurs in establishing new retail banks. Because they can draw on internal funds or issue securities in capital markets where they are already well known, they may have lower-cost access to capital.(25)

The four largest banks are increasing their market share in both asset and deposit markets, and there is no clear trend for the eight-firm ratios. Unfortunately we were unable to get comparable data for agencies and Edge Act subsidiaries. Their inclusion might change the picture somewhat. Even so, given the evidence on internal economies of scale reported in Appendix D, we suspect that the largest banks have

Table 3-1

California 4 and 8-Firm Concentration Ratio Based on
Total Domestic Assets and Deposits of National and State-Chartered Banks
(including foreign-owned)

| <u>Assets</u> | <u>1970</u> | <u>1972</u> | <u>1974</u> | <u>1976</u> |
|-----------------|-------------|-------------|-------------|-------------|
| 4-Firm | 69.6 | 68.8 | 70.4 | 71.0 |
| 8-Firm | 86.5 | 85.7 | 86.9 | 86.1 |
| <u>Deposits</u> | | | | |
| 4-Firm | 69.5 | 68.2 | 70.1 | 70.3 |
| 8-Firm | 86.1 | 85.1 | 86.1 | 85.1 |
| No. of Banks | 146 | 151 | 184 | 201 |
| Foreign | 7 | 11 | 11 | 15 |

Source: State Superintendent of Banking, Annual Reports for 1970, 1972, 1974, 1976.

held back somewhat, and that this has left room for entrants. The following quotation provides some support for this dominant oligopoly model.

California always has been kind of sleepy in comparison with New York or Chicago. Banks here have had it too easy. Ever since World War II, they've been able to just open a branch anywhere and watch towns develop around them. It's been an easy one-way street, but now there's very severe competition moving in.

[The foreign banks are] doing to American banks what we did to them in the 1950s and 1960s. The entry of American banks overseas really improved the competitive spirit and sophistication of the domestic banks there and I think these guys are doing the same things here on the West Coast we did over there. (27)

3.423 External Economies

Next we consider one effect of financial centers on FDI in banking. When banks enter a foreign country, not only do they open their offices in the same city, but these offices tend to be within walking distance of each other.

Having ready access to a large number of sellers, especially when these offer somewhat different products, reduces search costs for buyers. Foreign banks are particularly likely to offer different products since their knowledge, methods, and policies will not be the same as those of domestic banks. Search costs are analogous to a tax and reducing them is equal to an outward shift of the demand curve facing the sellers, in this case the banks. Hence the following statement, 'While foreign banks may be more competition, they bring more business for everyone'. (28) If the sellers individually face downward sloping demand curves because their products are differentiated, the result will be an

increase in the rent they can collect. Under these circumstances one would expect that existing firms in the market would welcome entry by new foreign firms. Because of the free-rider problem, no bank will invest in encouragement and assistance activities the full value to it attributable to an additional bank's entry. However, one would not be surprised to observe some expenditure of resources by domestic banks to assist foreign entrants.

When, in 1974 and 1975, small banks in California sought to get legislation passed which would have severely restricted foreign banks, officials from several large banks lobbied against it. In part, this was because of a concern with reciprocity, but they were not unaware of the advantage to them of building up San Francisco and Los Angeles as financial centers for the western US.(29)

Overall, the free-rider problem leads to less than the socially optimal encouragement of foreign entry. Some encouragement will occur. Sellers may provide entrants with assistance in finding quarters, intro to business associations and clubs, etc. Buyers may 'throw some business their way'. An official of Banco di Napoli reports that several major US corporations opened accounts on the bank's first day of business in New York 'as a token of appreciation for our services in Italy'.(30) These responses will serve to lower the costs facing the newcomers. In effect, each will receive some 'subsidy' from its local competition and customers. Because of the positive externalities generated, one could even argue that state banking regulatory agencies should offer inducements to foreigners to enter.

3.424 Government-Created Imperfections

In the US, the states and three Federal bodies share the responsibility for regulating banking. Partly as a result of this, lacunae have developed which favor foreign banks vis-a-vis their local competitors.

Three commonly mentioned sources of advantage are: 1), the non-prohibition on interstate branching, 2), the non-prohibition on ownership of securities affiliates, and 3), non-membership in the Federal Reserve System.⁽³¹⁾ In addition, anti-trust law can combine on occasion with banking law to bar all but foreign banks from acquiring certain local banks.

3.4241 Interstate Operations

The McFadden Act and the Douglas Amendment, Section 3(d) of the BHCA (1956), effectively prevent new inter-state banking by US banks. Foreign banks, however, may establish branches and subsidiaries in any state that permits entry. Many do not, but California, New York, Illinois, and some others do. Foreign banks would seem to be able to penetrate regional markets in a way that the large money-center banks cannot. Nevertheless, one can exaggerate the importance of the disadvantages facing US banks.

Almost all of the largest have Edge Act subsidiaries and loan production offices in major US cities. The former can engage in activities associated with international trade. The latter arrange loans which are then booked at the home office. Bank holding companies

may also conduct mortgage banking, leasing, consumer finance, and other related activities across state lines. Large US banks do seem to have managed to sidestep the restriction to a great degree.(32)

3.4242 Investment Banking

The Glass-Steagall Act prohibits US banks from engaging in both commercial and investment banking in the US. Foreign banks may, through subsidiaries and affiliates, underwrite and deal in corporate securities in addition to their banking business. They can, in principle, then offer corporate clients a wider range of services than can their US competitors. The two sets of activities can generate positive externalities for each other since information about a company gained in one capacity can be used in the other.

However, the number of foreign banks involved is quite small. In 1975 only 25 had US securities or investment banking affiliates, and typically these were located in New York.(33) Their market share in the securities industry is slight. SoGen-Swiss, the largest foreign bank owned securities organization in the U.S., ranks only 52nd in the listing of the top 300 securities firms in terms of capital. In their underwriting activities, the foreign banks tend to be essentially passive participants in syndications. For many, their primary orientation is towards serving the needs of investors in their home markets.(34)

3.4243 Federal Reserve Membership

Non-membership in the Federal Reserve System would seem to have been a more important advantage since it applied to most foreign banks, not just a few. Almost all large US banks are members. They are required to keep fractions of their deposits with the Federal Reserve as non-interest bearing deposits. State-chartered banks may keep their reserves in the form of approved securities or as interest bearing deposits with other local banks. The upshot is that non-member banks can seemingly charge less for loans.

This analysis is flawed. First, the national banks receive free services from the Federal Reserve which are a form of de facto interest payment. This reduces the foreign banks' apparent advantage. Second, foreign banks, in California at least, do much of their lending via agencies which do not have access to low-cost deposits but must instead fund their loans via borrowing in the Eurodollar market, from US banks, or in the US capital markets. National banks have the same access to these sources. Finally, foreign banks must still compete with domestically-owned state-chartered banks, and the national banks can withdraw from the Federal Reserve System and take up such charters if they wish. Table 3.3 summarizes the argument.

Insert Table 3.3

Federal Reserve membership therefore seems a non-binding constraint and freedom from it a null advantage for the foreigners.

Table 3-3

Advantages and Disadvantages of Foreign and Domestic Banks

| | Domestic | | Foreign | |
|----------------------------------|----------|-----------------|--------------|----------|
| | National | State Chartered | Subsidiaries | Agencies |
| Federal Reserve Membership | - | 0 | 0 | 0 |
| Domestic Deposits | + | + | + | 0 |
| Eurodollar & U.S. Capital Market | + | + | + | + |

- + : indicates access to an advantage
- : indicates subjection to a disadvantage
- 0 : An advantage or disadvantage does not apply

The interaction between banking regulation and anti-trust law is significant in individual cases, though it cannot serve as a blanket explanation. In California, in the early 1970s, a number of mid-range banks (about \$1 to \$3 billion in assets) were not performing well and were prime candidates for takeover. The BHCA barred acquisition by out-of-state banks. The other local banks of roughly the same size were in no condition to absorb their ailing fellows. Finally, regulators were unwilling to permit the large California banks a role since this would have further increased the already high industry concentration. This left only foreign banks as possible acquirers. Appendix B has a short description of the four major cases. These have their parallels in New York State.(35)

If there is a social gain to preventing increased concentration in each state or in the US, stockholders of the acquired banks bear the cost to the degree that the acquisitions are less valuable to foreign banks than to US banks. Government regulations have combined to create an imperfection in the market for control which does not harm foreign banks and may give them an advantage.

3.5 Behavioral Explanations

In some contrast to the above explanations, a number of authors, for instance Knickerbocker [1973] and Flowers [1975], have emphasized the role of 'oligopolistic reaction' in the motivation for FDI. The theory proposes that in relatively concentrated, oligopolistic industries, competitive interaction among the leading firms causes them to make similar direct foreign investments at almost the same time. When one

firm makes a foreign investment, the others imitate it to counter the possibility of a competitor accumulating new capabilities, information, markets, and competitive options. (36) This would imply that if one bank from a country is in California, others will be there too. Graham [1977] adds to this the theory that some FDI represents an 'exchange of threat'. By investing in the home country of direct investors in its own market, the foreign firms ensures that they cannot engage in price-cutting competition abroad while maintaining prices and profits at home.

Proof of the theory of oligopolistic reaction requires the discovery of cases where imitative investment took place despite ex ante indications that the market could not support the number of new entrants. Otherwise the observed 'clumping' in time of investments may only reflect the fact that a number of firms in an industry and country have, roughly simultaneously, found and acted on similar opportunities.

3.6 Theoretical Synoosis

Tieing these considerations together, we suggest the following summary. Distance, physical and cultural, should have a negative effect on FDI, but the degree will differ among banks because of the effects of experience. Foreign banks must still have off-setting advantages in order to compete with domestic banks later in their home markets. While we accept that internal advantages such as commercial knowledge or product differentiation are important, we maintain that theory to date has neglected the role of external advantages. We would argue that external economies, capital market restrictions, lack of

competition in the host market, and favorable legislation may also play a role, especially since it is these advantages in particular that cannot be sold out rather require the act of FDI for realization.

4.0 Hypothesis Testing

We will treat agencies and subsidiaries separately. The major difference between them is that the latter can accept domestic deposits and engage in retail banking. We argue therefore that in establishing a subsidiary, the foreign bank is entering to operate in a different market from that for agency services.

4.1 Agencies

In this section, we investigate the decision by foreign banks to open an agency in California. The population being tested consists of banks that meet the following criteria: a), they appeared in The Banker's List of the top 100 banks in the world (ranked by assets less contra-accounts) in 1969 or 1976 (119 banks), and with the size data being available for both these years (-5), b), they were not US banks (-26), and c), they had at least one office of some sort in another country (-6). One more bank had to be dropped because of a data problem on a variable. Eighty-one banks met the criteria and between them accounted for 36 of the 45 separate agencies under consideration. Of these banks, in 1976 some had one or more agencies (35), some had none (41), and some shared an agency (6). We then attempt to correctly classify them into two groups (those with one or more agencies and those without any) on the basis of certain bank and country attributes which we hypothesize bear on the decision.

4.11 Model

For the regression we use a linear probability model of the form:

$$Y_i = a + \sum_j b_j X_{ji} + e$$

where $Y_i = 1$ if bank i has a wholly-owned agency in California and 0 otherwise, except that since six banks jointly own an agency, we credit each of them with its proportionate share. The X_j are bank and country-specific attributes, and e is the stochastic error term. The regression equation then describes the probability that a bank will have an agency in California. Fitted values greater than 1 or less than 0 are obviously possible.

This type of model is heteroskedastic by its very nature. The estimates of the coefficients are inefficient, but not necessarily biased or inconsistent. Weighted Least Squares, while possible, is quite sensitive to specification error [Pindyck and Rubinfeld 1976, p.241]. Because of the nature of the dependent variable, the error distribution of the regression model is, formally speaking, not Gaussian and hence the classical statistical tests of the parameter estimates do not apply. However, our experience is that the residuals of the models seem quite well-behaved. We therefore report 't-statistics' below and give 'significance' levels as if this problem did not exist.(37)

4.12 Bank-Specific Variables

A76 is the size of the parent bank in 1976 in US\$ billion in assets less contra-accounts. We included it to capture scale effects.

GROW is the growth of the parent over the period 1969-1976, where $GROW = (A76/A69) - 1$. We have no expectation as to the sign of the coefficient. The variable includes the countrywide effects of exchange rate changes, monetary growth, and growth of the industry. We expect that these will swamp any bank-specific factors of profitable advantages or a growth orientation.

DIST is the natural logarithm of the air distance between San Francisco or Los Angeles and the bank's head office, in thousands of miles rounded to the nearest five hundred. The log form gives us costs that increase with distance, but at a decreasing rate. We have not included any measures of cultural distance in this equation since agencies operate primarily in markets where one can expect that cultural differences will have little effect.

CNTRY equals 0 or 1 + the natural logarithm of the number of countries in which the bank had a branch or subsidiary in 1976. The more countries in which a bank is, the more likely it is that it has learnt to conduct its operations at minimum cost. Also, it is an indicator of a strategic choice to establish a network of offices and represents a capability or service which the bank can sell. The log form reflects the hypothesis of decreasing marginal utility of representation in an additional country.

SCMA is a dummy variable for banks which are the central organization of an association of savings banks or credit unions, or mortgage or agricultural credit banks. For these banks, even if their charters do not limit their international operations, we expect that they will be

at a disadvantage vis-a-vis commercial banks due to a lack of expertise in industrial lending or foreign trade. We expect the coefficient to be negative.

TORP is a similar measure and reflects the Japanese banking system. Japan recognizes four types of institutions: city, long-term credit, trust, and provincial banks. As far as we can ascertain, the latter two categories are less likely than the others to have large firms as customers. More importantly, the Japanese government seems to be restricting their overseas expansion.(38)

OTHER is a dummy variable for the presence in California of other banks from the bank in question's home country. It takes on a value of 0 if the bank is the only bank from its country to have a California agency, or if no bank from that country has one. It takes on a value of 1 if any home country bank other than itself has an agency. It thus says nothing about whether the bank in question is in California. We expect the variable's coefficient to be positive for two reasons. First, if the market is attractive to one bank from a particular country, it is probably of interest to others. Second, if the oligopolistic reaction theory is correct, the presence of one or more of its competitors in California will spur it too to establish itself there.

OTHER2 is similar in construction except that the threshold is the presence of two other banks. It can only take on a value of 1 if OTHER is equal to 1. We expect a positive coefficient, smaller in size than that for OTHER. The more banks from a country that are in California, the smaller are the rents that each can expect. We chose this method

of representing competition among foreign banks because of the great variability among countries in their representation in the sample and in California, and the difficulty of normalizing this for differences between countries in the size of their economies or in their banking structure. We have no variable for the case where a bank is its country's sole representative since this would mean regressing the dependent variable on itself, at least in part.

FLAG is a dummy for national 'flagship' banks. The basic criteria are that the bank be the largest in the country or a foreign-trade bank, be government-owned, and have several offices abroad. The rationale is that a government may feel that for a variety of reasons, including trade promotion, it would like a local bank to have an international network of offices. We expect that it would tend to use the largest bank as its vehicle, especially if it owned the bank. Banco do Brazil, Banque Nationale de Paris (BNP), the State Bank of India, Bank Melli (Iran), and the Korea Exchange Bank met the criteria. However we dropped BNP and added the Hongkong and Shanghai Banking Corporation and the Bank of Tokyo. (39)

4.13 Country-Specific Variables

CAPITAL is a dummy for home country restrictions on outward portfolio investment by its citizens. Ideally, we would have preferred a continuous measure of the stringency of capital outflow restrictions. Measurement problems forced us to fall back on subjective dichotomous coding. The UK and Israel pose no problem since in both countries in 1976 foreign exchange for foreign portfolio investment commanded a

premium, indicating a binding constraint. The effectiveness of other countries' restrictions is less clear. However, governments own all the other banks in the sample which we might have coded as 1. Since governments are not bound by their own exchange control regulations, CAPITAL reduces to a dummy for the UK and Israel. Its real meaning is therefore somewhat ambiguous.

The two trade measures (all in US\$ billions) are: 1) *PRIS, imports to the US from the home country, and 2) XPRIS, exports from the US to the home country. The trade-related variables reflect the agencies' activities and their advantage through knowledge of their home countries' firms and conditions. Trade with the U.S. is an admittedly poor proxy for trade with California and the other western states. We are endeavoring to get the appropriate data.

Canada we treated separately. We set its trade to zero and instead have used a dummy (CAN) for Canadian nationality. Canada is a substantial outlier on all the trade measures because its economy is so integrated with that of the US. Incidentally, since all the Canadian banks in the sample have their headquarters in Toronto or Montreal, CAN is collinear with DIST.

CALCOMP is the number of California banks that have some agency, branch, or merchant banking representation in the foreign bank's home country. It is a proxy for the effect of host country banks with operations in the foreign banks' home countries on the latters' interest in FDI. If the 'exchange of threat' theory is correct, the coefficient should be positive. We expect the opposite though. If

California banks have access to much the same information as do the foreign banks, this will reduce the latter's potential rents.

Finally, FIN reflects FDI in the US from the bank's home country, and FOUT the reverse stock. They are measured in terms of US\$ billions in book value in 1976.(40) Foreign banks seek as customers local subsidiaries of home country firms. To a lesser degree, they also pursue the parents of companies with operations in their home countries. We expect the FIN and FOUT variables to have positive coefficients, with the former having a greater and more significant effect than the latter. We have set the Canadian investment figures to zero as in the case of the trade data.

4.14 Results

Table 4.1 gives the results for three variants of the model. While we report t-statistics and significance levels, these are only indicative. Throughout the discussion below our criterion for significance is the 5% level on a one-tailed test.

Insert Table 4.1

The magnitude and significance of A7b's coefficient is consistent across the equations, confirming our casual observation that, of the world's largest banks, the larger ones are, *ceteris paribus*, more likely to operate internationally than are the smaller. This would indicate that there are economies of scale in establishing an international network of offices. These economies give larger banks an

Table 4-1

Agency Regressions
(t-statistics in parentheses)

| <u>Variables</u> | <u>1</u> | <u>2</u> | <u>3</u> |
|------------------|----------------------|----------------------|----------------------|
| CONSTANT | 0.133 (0.160) | -0.073 (-0.631) | 0.557 (1.487) |
| A76 | 0.010 (2.029)* | 0.011 (2.245)* | 0.009 (1.987)* |
| GROW | -0.001 (-0.059) | | |
| DIST | -0.110 (-0.248) | | -0.333 (-1.559) |
| CNTRY | 0.116 (2.912)** | 0.113 (2.975)** | 0.125 (3.500)** |
| SCMA | -0.195 (-1.1352) | -0.199 (-1.403) | -0.184 (-1.304) |
| TORP | -0.631 (-3.212)** | -0.635 (-4.332)** | -0.641 (4.351)** |
| OTHER | 0.481 (3.268)** | 0.486 (3.398)** | 0.472 (3.296)** |
| OTHER2 | -0.443 (-2.971)** | -0.443 (-3.013)** | -0.424 (-2.954)** |
| FLAG | 0.217 (1.278) | 0.207 (1.273) | 0.220 (1.313) |
| CAPITAL | 0.745 (3.401)** | 0.740 (3.530)** | 0.757 (3.579)** |
| MPRT | 0.102 (2.840)** | 0.103 (2.912)** | 0.105 (2.987)** |
| XPRT | -0.053 (-0.790) | -0.054 (-0.815) | -0.062 (-0.974) |
| CAN | 0.280 (0.575) | 0.385 (1.649) | |
| CALCOMP | -0.125 (-2.128)* | -0.122 (-2.148)* | -0.128 (-2.234)* |
| FIN | 0.006 (0.135) | 0.008 (0.215) | 0.003 (0.070) |
| FOUT | -0.015 (-0.743) | -0.016 (-0.815) | -0.015 (-0.769) |
| <hr/> | | | |
| R ² | 0.648 | 0.658 | 0.657 |
| SER | 0.291 | 0.286 | 0.287 |
| F | 10.195 | 11.999 | 11.928 |

* Indicates significance at the 5% level (1-tailed test in both cases)

** Indicates significance at the 1% level

advantage vis-a-vis smaller ones, but say nothing about foreign vs. domestic banks.

GROW's coefficient is negative and small. The direction of the effect is interesting, but one cannot make much of it.

In models 1 and 3, DIST has a negative effect. In the latter model, the magnitude of DIST's coefficient jumps dramatically. The t-statistic does so too, but remains insignificant.

CNTRY holds no surprises. The more countries in which a bank operates, the more likely it is to have a California agency.

Not being a commercial bank has a negative effect on the likelihood that the bank in question will operate in California. SCMA's coefficient's lack of significance is not surprising. In a number of countries, once-specialized institutions are diversifying their activities. If we were to replicate this research in ten years we would expect to find the coefficient negligible in size and significance.

TORP is a very different case. Its strongly negative coefficient makes it very unlikely that Japanese trust or provincial banks will have a California agency. Our impression is that this is due to the Japanese government's restrictions on their activities. The Bank of Yokohama, the largest of the provincial banks, has a London branch. It is the only member of this group to have a branch overseas. If TORCU did not apply to it, the models would predict its having a California agency.

while government policy may change in the future, one suspects that the Japanese Government is reluctant to authorize more Japanese banks to establish themselves in California. It is already under pressure to reduce its restrictions on foreign banks operating in Japan and probably does not wish to strengthen demands for reciprocity.(41)

OTHER and OTHER2 are consistent across the models. The net effect of facing two or more compatriots is slightly positive. The results do not permit one to choose between 'oligopolistic reaction' and 'market attractiveness' as alternative explanations of multiple entry. The 'cancelling out' effect of the increase in the number of competitors by one is surprising and would seem more consistent with the latter theory than with the former.

FLAG's coefficient is positive and not negligible in size, but not significant.

While CAPITAL has a very strong, positive, and significant effect, one cannot assign this unambiguously to the hypothesized cause. There are a number of other links between California and the UK or Israel which may play a part.

MPRT's coefficient is positive and significant. XPRT has a negative effect, though the coefficients are not significant. The sign is not unreasonable since one can expect US banks' response to exports to mirror the foreign banks' response to their countries' exports.

CALCOMP has the expected negative coefficient. The evidence does not

lend much support to the 'exchange of threat' theory.

CAN's coefficient is not significant in either model. In the second model the coefficient increases in magnitude by some fifty percent and almost becomes significant.

Finally, we come to FIN and FOUT. Both coefficients are small and not significant, and the signs parallel those for the trade variables. We would expect the variables to perform more powerfully if we could get data for FDI into and out of California.

4.15 Classification

In this section we will examine the models' ability to correctly classify the banks' decisions. This gives us an alternative way of judging explanatory power. Furthermore, examination of the errors can provide additional insight.

For classification purposes we have used an equation that is a linear combination of two other equations. The regression model is

$$Y = b_1 \cdot Y_2 + b_2 \cdot Y_3 + e$$

where Y is defined as before, Y2 and Y3 are the fitted values from models 5 and 6, and $b_1 + b_2 = 1$. Nelson [1972] gives the mathematical background to this technique. Basically, it amounts to drawing out some of the information that remains in the residuals, when these are not perfectly correlated, of the component equations.

The combination gave the following result:

$$Y = 0.71075 \cdot Y_2 + 0.28963 \cdot Y_3$$

$$R^2 = 0.715 \quad \text{SER} = 0.262$$

One can see from the adjusted R^2 and the standard error of the regression that the combination is slightly more powerful than either equation alone. A t-test of the hypothesis that $1 - b_1 - b_2 = 0$ does not reject it at even the 50% significance level.

We recoded the fitted values from this model into ten equally-spaced intervals from 0 to 1. Values less than 0 and greater than 1 were placed into the first and last intervals respectively. The results are:

Insert Table 4.2

If we take as the dividing line a fitted probability of .5, the equation correctly classified 74 banks and missed on seven. Type I error was 5.7%, or 2 banks out of 35. Type II error was 10.9%, or 5 banks out of 46.

The two banks that have California agencies though the model predicts otherwise are Credit Lyonnais ($Y = .48$) and Bayerische Vereinsbank ($Y = .34$). While we cannot explain the first error beyond attributing it to statistical variation, in the case of the second we can bring some outside information to bear. There are indications that the largest Bavarian banks are challenging Germany's big three, especially in the

Table 4-2

Agency Classifications

| | | | | | | | | | | | |
|-----------|--|-----------------------|----|----|----|----|----|----|----|----|----|
| Present 1 | | | | | | | | | | | |
| Actual | | 0 | 0 | 0 | 1 | 1 | 1 | 6 | 4 | 9 | 13 |
| | | 27 | 5 | 4 | 2 | 3 | 3 | 1 | 1 | 0 | 0 |
| Absent 0 | | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | 1 |
| Absent | | | | | | | | | | | |
| | | Fitted Classification | | | | | | | | | |
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corporate market.(42) The Bayerische Vereinsbank's Los Angeles agency may reflect a strategy of developing an international network of offices as a form of service competition for the home market.

Four of the five cases in which the model predicted a wholly-owned agency which the banks in question did not have are easier to explain. The Long-Term Credit Bank of Japan ($Y=.79$) entered in late 1977.(43) Lloyds Bank's ($Y=.69$) California subsidiary is quite large and the bank probably does not need an agency.

Societe General ($Y=.55$) and Deutsche Bank ($Y=.54$) are two of the six co-owners of the European-American Banking Corporation and thus share its agencies. While this strategy may have satisfied the partners in the past, the results imply that the two banks could stand alone. One might speculate about the consortium's stability.(44)

The fifth case is that of the Nippon Credit Bank ($Y=.52$). This is basically a mortgage bank which nevertheless opened a representative office in Los Angeles in 1976. An agency may well follow eventually.

4.2 Subsidiaries

4.21 Model

Here we perform the same exercise as we did for the agencies, but this time we examine the decision to establish a subsidiary. Again, the model is a linear probability one. The sample is different though, as are some of the variables.

For this test the population consists of those foreign banks that have a presence in California, be it in the form of representative office, agency, or subsidiary. Sixty banks met this criterion in June, 1976. The problem we are addressing then is the determinants of the decision to have a subsidiary, or a share in one, given that the banks in question already have some presence in the state.

The model for subsidiaries has even greater statistical problems than the one for agencies. The BHCA forces banks, other than those whose operations have been 'grandfathered', to choose between states, or between a securities or banking subsidiary. Thus the appropriate approach is to develop a system of simultaneous equations with one equation for each alternative. This is very difficult to do. The BHCA is a barrier but not an immutable one. A bank could divest itself of its existing subsidiary when acquiring or establishing a subsidiary in another state.⁽⁴⁵⁾ The model must be able to evaluate the alternatives for each bank, choose the best, bar the others, and yet leave some room for ambiguity.

We have chosen instead to use a one-equation model and treat the alternatives with dummy variables. This is far from ideal since we can expect bias in our estimates of the coefficients. However it does give us a start on the development of a more complex and appropriate model.

4.22 Bank-Specific Variables

There are nine bank-specific variables. We have already discussed A76, GROW, CNTRY, and DIST. To these we add SOTHER, SOTHER2, and TIME, SUB,

and SEC. SOTHER and SOTHER2 are identical in construction to OTHER and OTHER2, but the competition referred to is that of subsidiaries.

TIME is a dummy variable which takes on a value of one if the bank has been in California less than two years, and zero otherwise. We expect its coefficient to be negative. We include TIME because usually a bank first establishes its presence in the state via a representative office or an agency. Subsidiaries, should the parents decide to establish them, follow a year or two later. This delay may result from the parent requiring several years before it is confident that it knows the local retail market well enough to risk making the investment. Also we cannot ignore the fact that the test takes place in time. Recent entrants may simply have arrived at a time when the retail market does not look attractive.

SUB is a dummy variable which takes on a value of one if the parent bank has a banking subsidiary in another state in 1976 or 1977. This does not apply to the five cases where subsidiaries were 'grandfathered' by the BHCA.(46) Also, a number of banks have specialized subsidiaries which are not considered 'banks' under the law (e.g. New York investment companies). We expect SUB's coefficient to be negative.

SFC is a dummy for those banks that have a de jure controlling share in the ownership of a securities company in the US. Some German and Swiss banks in particular have reportedly preferred to establish securities rather than banking subsidiaries. Once again, the BHCA makes these alternative. Because of the complexity of the laws and lack of

information about the activities of some subsidiaries we have very probably mis-classified some cases. This introduces further bias into the estimate of the coefficient, but it is not clear in which direction. We nevertheless expect the sign to be negative.

4.23 Country-Specific Variables

FIN and FOUT reflect the fact that home-country corporations with subsidiaries in the U.S. or U.S. corporations with subsidiaries in the home country are obvious sources of deposits.

CAPITAL is defined as before. We coded privately-owned banks from the UK, Israel, the Philippines, Korea, and Brazil with a 1.

MNRTY reflects the presence, in California, of the relevant ethnic minority. It is a subjectively coded dummy variable. The 1970 US Census does not sufficiently disaggregate national origins for our purposes. Moreover, we feel intuitively that numbers of emigrants from a country does not take into account the degree of their difference which has some bearing on their interest in banking with a home country bank. We coded banks from the following countries with a 1: Israel, Mexico, the Philippines, Korea, Hong Kong, and Thailand. We also added Bank of Tokyo and Sumitomo Bank, the first two Japanese banks (1953) to establish California subsidiaries.

EURO and NEURO are an attempt to account for cultural distance. EURO takes on a value of 1 if the bank in question is from Europe, Latin America or Israel, and 0 otherwise. NEURO is similar. In this case it

is banks from Asia, including the Philippines, and India which receive the 1. Banks from the UK, Canada, and Australia receive a zero on both variables. We also treated the Hongkong and Shanghai Bank as essentially an English bank even though it is located in Hongkong.

4.24 Results

Table 4.3 presents the results for two models. The first is the full model and the second contains that subset of the variables that maximizes adjusted R².

Insert Table 4.3

Both are weak. In the first model, coefficients are significant only for CNTRY and SEC. We would reject the hypotheses that size, growth, physical distance, capital restrictions, cultural distance, the presence of a related minority, or FDI, have an effect on the decision to establish a subsidiary. Most of the coefficients have the expected sign, but that is all. Part of the problem is the crudeness of our measures. More importantly, a number of factors may have their effect in determining whether the bank is in California at all, and given that, have little further influence.

CNTRY is the most powerful variable. If we could develop a measure like it, but on the basis of the number of countries in which the bank had retail operations, the variable would probably be even more effective. The critical factor is probably the bank's experience in

Table 4-3

Table 4-3

Subsidiary Models
(t-statistics in parentheses)

| <u>Variables</u> | <u>1</u> | <u>2</u> |
|------------------|---------------------|---------------------|
| CONSTANT | 0.110 (0.232) | -0.132 (-0.975) |
| A76 | 0.004 (0.557) | |
| GROW | -0.004 (-0.496) | |
| CNTRY | 0.131 (2.676)** | 0.145 (4.236)** |
| DIST | -0.851 (-0.333) | |
| SOTHER | 0.020 (0.092) | |
| SOTHER2 | 0.026 (0.084) | 0.231 (2.295)* |
| TIME | -0.124 (-0.848) | -0.209 (1.914)* |
| SUB | -0.160 (-1.320) | -0.162 (-1.556) |
| SEC | -0.266* (-1.817) | -0.194* (-1.697) |
| FIN | 0.038 (0.825) | |
| FOUT | -0.006 (-0.189) | |
| CAPITAL | -0.075 (-0.422) | |
| MNRTY | 0.122 (0.632) | 0.137 (1.119) |
| EURO | -0.146 (-0.603) | |
| NEURO | 0.011 (0.051) | |
| <hr/> | | |
| \bar{R}^2 | 0.313 | 0.406 |
| SER | 0.348 | 0.324 |
| F | 2.791 | 7.729 |

* Indicates significance at the 5% level (1-tailed test in both cases)

** Indicates significance at the 1% level

running a distant retail operation when the opportunity to purchase or establish such a bank arises.

TIME and MNRTY have the expected sign. Removing some of the variables improves the magnitude and significance of the remainder due to their picking up the effects of the omitted variables. Even so MNRTY remains non-significant.

SEC has the expected negative sign. When forced to choose, banks concentrate their activities in their area of comparative advantage. For some Continental European banks in particular this seems to be in underwriting and securities dealings. SUB's coefficient is also negative, but it is weaker and less significant. One could tentatively describe both legal constraints as superfluous to a certain degree. Examination of the regression residuals indicates that, of the two, only SUB makes a difference, and that in only three cases.(47)

SOTHER2 has a positive sign. This stands in some contrast to OTHER2's negative coefficient. We would consider the results for SOTHER and SOTHER2 in the first model as very vaguely consistent with oligopolistic reaction. However, as the second model shows, these variables are very good at picking up the effect of other, omitted factors.

4.25 Classification

The first model misclassifies five cases. Type I error is 13.3% or two out of 15 banks, and Type II error is 6.7%, or three out of 45 banks.

The second model, though it has the higher adjusted R^2 , misses on seven. Type I error is 26.7% and Type II remains at 6.7%.

Both models fail to classify the Korea Exchange Bank ($Y1 = .49$ and $Y2 = .45$) and Tokai Bank ($Y1 = .25$ and $Y2 = .24$) among those with subsidiaries. To these, the second model adds Banque Nationale de Paris (BNP, $Y2 = .46$) and Sanwa Bank ($Y2 = .48$). BNP is the parent of the French Bank of California, which, as discussed earlier, has found a niche in wealthy neighbourhoods. Had we coded it as a minority bank the model would have classified it correctly. We have no explanation for the Japanese cases. The reason for all these errors may rest with our measure of minority appeal.

Both models give the Royal Bank of Canada (RBC), Bank of Nova Scotia (BNS), and National Westminster subsidiaries they do not have. RBC has a banking subsidiary in New York. It therefore may not maintain one in California. SUB did not have a great enough effect to properly handle this case. We cannot explain the BNS error. The bank did receive permission in 1974 to establish a subsidiary. It did not act and the approval has expired. The fitted values for National Westminster are .50 and .56 in the two models respectively, and the error is thus borderline. In 1976 the bank was already searching for a good acquisition opportunity.⁽⁴⁸⁾ It seems that it found it in 1978 in New York (National Bank of North America) rather than California.

5.0 Summary

In Section 2.0 we discussed the growth of FDI in banking in California. This growth, in terms of both numbers of participants and their market share, is still continuing. The third section tried to identify some of the reasons why foreign firms could successfully compete with local firms.

Two reasons which we could not test out which we argued were important were the highly concentrated structure of the banking industry in California, and lacunae in Government regulations that created opportunities for foreign banks. First, foreign banks might be able to operate as fringe entrants under a price umbrella maintained by a dominant oligopoly. Second, one clearly important factor in individual cases was the interaction of anti-trust law and the prohibition on interstate banking. Because of these laws, foreign banks were able to acquire local banks without having to bid against other US banks for them. Thus even if the acquisition were worth less to them than to a US bank (because they face the extra costs of being foreign), they might still be able to make a successful bid.

Recent legislation has limited the other legal advantages which were commonly advanced as explanation in the past. We feel that these were not very important though and doubt that the changes will have much effect. The best test will be to re-examine the situation in a few years and see if we can find any changes in the pattern of operations and establishment by foreign banks which we can then attribute to the effect of the new law.

The fourth section statistically tested some hypotheses about the decisions to establish agencies and subsidiaries. Some of the results for agencies are that, *ceteris paribus*, the larger the bank or the more countries in which it operates, the more likely it is to open an agency in California. Being a national flagship bank also has a positive effect on entry. However, the probability of entry decreased as the physical distance between a bank's head office and California increased. Not being a commercial bank also had a negative effect.

Of the country-specific variables, imports to the US, and perhaps portfolio capital outflow restrictions, have a positive effect. The higher the volume of imports to the US from a country, the greater is the probability that banks from that country will establish agencies. Exports to the home country have a negative effect, perhaps because they induce US banks to establish themselves abroad.

Competition, in the form of the number of California banks with operations in the foreign bank's home country, reduces the likelihood of its having an agency. While having at least one compatriot in California has a positive effect on a bank's probability of entry, having two or more has a negative one so that the net effect is weakly positive.

All of the results support the theory that knowledge is important in overcoming the costs and disadvantages of operating at a distance, in a foreign environment, and against local competition. The banks that are likely to have agencies are experienced in far-flung operations, have a network of offices around the world whose services they can sell, and

have as customers home country firms engaged in trade and investment in the US.

The results for the decision by foreign banks in California to establish subsidiaries are less clear-cut. We cannot definitively confirm or reject the importance of cultural distance. The factors that have a positive effect are experience in operating at a distance and special access to segments of the host country's population. The latter may take two forms: the presence of the relevant ethnic minority, or product differentiation based on national image. We are inclined to view these two as having the effect of enabling the foreign bank to achieve parity with its local competition by giving it an advantage that counteracts the disadvantages of having to operate at a distance and having to acquire knowledge of the local market. We expect that over time foreign banks' subsidiaries come to resemble their local competition more and more as they grow beyond the limits of the special markets in which they began. In the U.S. context, restrictive legislation on the foreign banks' activities does seem to have an effect, though it seems decisive, in the sense of limiting the spread of subsidiary operations, in only a few cases.

Our future research will expand the number of countries considered. In this way we hope to be able to investigate the effects of external advantages on FDI in banking, and to start to address the question of receptivity and its determinants.

FOOTNOTES

- 1). FDI involves the ownership and control of an enterprise across national boundaries.
- 2). Midland Bank, Deutsche Bank, Societe Generale (France), Societe Generale de Banque (Belgium), each with 20%, and Amsterdam-Rotterdam Bank (17%), and Creditanstalt-Bankverein (3%).
- 3). For instance, U.S. law required that all the directors be U.S. citizens and reside near the bank.
- 4). California regulations discussed here are contained in Sections 1753 et. seq., 1756, 1756.1, 1756.2, and 1780 of the California Financial Code. US regulations are drawn from 12 United States Code Sections 72, 1814, 1815, and 1841-1850. The International Banking Act has modified some of the US laws.
- 5). Auerbach [1976, p.24]. Control requires that at least one entity own, control, or have the power to vote 5% or more of the voting securities of any bank.
- 6). Bank Stock Quarterly [Oct. 1978, Table IV].
- 7). Auerbach [1976, p.49].
- 8). Congressional Quarterly, Aug. 26, 1978, p.2258.
- 9). It has, on one occasion, exerted pressure on a country to permit entry to a state-chartered bank when national banks domiciled in California were already operating there and the country had banks in the state.
- 10). California Superintendent of Banks, Report on Foreign Banking Matters, April 1974, p.22. Quoted in SCRC [1976, p.28].
- 11). Calif. Super. of Banks, 65th. Annual Report, 1974, p.54.
- 12). Muramaki, Itsuo, 1975, U.S. Banking Regulations on Foreign Banks, unpublished Masters' Thesis, Alfred P. Sloan School of Management, p.60. For information on the bank-business groups in Japan see Alhadeff [1975].
- 13). SCRC [1976, p28-29].
- 14). Cal.Super., 65th. An. Rep., p.54.
- 15). Ibid., p.56.
- 16). SCRC [1976, p.30].
- 17). Ibid.

- 18). Ibid., p.31.
- 19). Cal. Super., 65th. An. Rep., p.54.
- 20). Ibid., p.59.
- 21). Grubel [1977, p.352-535].
- 22). Ibid., p.351.
- 23). Bronte [Mar. 1978, p.40].
- 24). Murakami, p.59 in 7.
- 25). Hans-Rudolf Kuchler, Senior Vice President, Union Bank of Switzerland, in Munder [1976, p.85].
- 26). I would like to thank Donald R. Lessard for reminding me of this point.
- 27). R.C.(Ted) Haroham, SVP and Mgr. of the International Division of the United California Bank, quoted in Garcia [Sep. 1976, p.91].
- 28). Earnest Schneider, EVP, Irving Trust, quoted in American Banker, Aug. 8, 1977, p.13.
- 29). Similar considerations reportedly were important in explaining the support of the large Chicago banks for changes in Illinois law permitting the establishment of foreign-owned branches [Auerbach, 1976, p.13].
- 30). Piero Getzel, Executive Vice President, Banco di Napoli [Munder, 1976, p.78].
- 31). Auerbach [1976, p.18].
- 32). For an alternative assessment see Terrell and Key [1977].
- 33). House Committee ...(1976)
- 34). Severiens and Baker [May 1978, p20+].
- 35). Marine Midland/Hongkong and Shanghai Banking Corporation. National Bank of North America/National Westminster Bank. American Bank and Trust (N.Y.)/Bank Leumi Le-Israel B.M.. Franklin National Bank/European American Banking Corp.
- 36). Flowers [1976, p.43].
- 37). We are currently experimenting with weighted, combined least squares, discriminant analysis, and maximum likelihood logit. Preliminary results for these methods parallel those from the ordinary least squares regressions. We intend to present a comparison of the results of these methods in a subsequent paper.

38). Coombs (1977).

39). BNP is one of three banks all of roughly the same size. The government nationalized all three in 1947 and there is no reason to assume that any one of them is a flagship bank. Hongkong and Shanghai Bank is the de facto Central Bank for the Crown Colony, and its largest bank. Bank of Tokyo, while privately owned, is a specialized foreign trade/foreign exchange bank and has a privileged relationship with Japan's Ministry of Finance for whom it acts as an overseas arm (Bronte [Jan. 1979]).

40). Chung and Fouch [Aug. 1978], Table 13], and Kazlow, Rutter, and Walker [Aug. 1978, Table 12]. Some of the data used, while not disaggregated in the tables cited, is available from the authors of the articles. In a number of cases the data has been suppressed to preserve confidentiality. In these cases the numbers we have used are our estimates based on surveys in adjacent years and discussion with some of the above cited authors.

41). Lim (1978), and Wall Street Journal (Feb. 2, 1978).

42). Dornburg (Jul. 1978).

43). In fairness we should mention that the Union Bank of Switzerland ($Y=.29$), the State Bank of India ($Y=.38$), and the Australia New Zealand Banking Group ($Y=.03$) also entered in 1977.

44). Institutional Investor (Sep. 1977, p.133).

45). Hongkong and Shanghai Banking Corporation has just received (Mar. 1979) Federal Reserve approval to acquire Marine Midland Bank in New York. In order to get the permission it had to sell the Hongkong Bank of California to a local bank. When Banco di Roma established a banking subsidiary in Chicago it agreed to divest its share in a securities affiliate.

46). Bank of Tokyo, Sumitomo Bank, Bank of Montreal, Canadian Imperial Bank of Commerce, and Barclays Bank [Bank Stock Quarterly, Oct. 1978].

47). By difference we mean that, ceteris paribus, if the variable did not apply, the bank in question would have a California subsidiary. The three cases are National Westminster, Fuji Bank, and Royal Bank of Canada.

48). Fortune, Jun. 19, 1978.

Appendix A

Hongkong and Shanghai Banking Corporation's Overseas Expansion

1865: Established as 'The Hongkong and Shanghai Banking Company Ltd.' in Hong Kong, Shanghai, and London by the largest shipping, trading and engineering firms in Hong Kong to take over the banking interests of the old agency houses which were, in fact, the banking departments of the great merchant firms. The object was to promote banking services in the East under local control.

1866: Office opened in Yokohama.

1867: Calcutta.

1869: Bombay.

1875: San Francisco and Manila.

1877: Singapore.

1880: New York.

1881: Lyons.

1884: Jakarta and Penang.

1888: Bangkok.

1889: Hamburg, and by 1900 the bank was firmly established in all the main ports of the East.

1955: Established Hongkong Bank of California.

1959: Acquired the Mercantile Bank Ltd. which operates in India.

1960: Acquired the British Bank of the Middle East.

1978: Acquisition of 51% of the stock of Marine Midland Bank in New York awaiting regulatory approval.

SOURCE: The Banker's Almanac and Yearbook, 1977-78.

Appendix B

Major Acquisitions of California Banks by Foreign Banks

1) In 1974 Lloyds Bank, with a small California subsidiary of three branches, acquired First Western Bank and Trust. This was the eighth largest bank in the State with assets of \$1.3 billion and 94 branches. World Airways had itself acquired the bank from Transamerica Corporation in the late 1960s but had to divest it in order to comply with the BHCA [Johnston, 1977]. Wells Fargo Bank wanted to acquire the bank but was blocked on anti-trust grounds [Economist, Dec. 14, 1974, Survey, p.79].

2) In 1975 the Bank of Tokyo of California acquired a majority share in the Southern California First National Bank. The Japanese bank had some thirty branches and its acquisition brought it 75 more, together with \$811 million in deposits. The combined bank is now called the California First Bank.

3) In 1977 Standard Chartered Bank, parent of the Chartered Bank of London in California, bid for BanCal Tri-State, the holding company for the Bank of California. When the Bank rebuffed the bid, Standard Chartered dropped its offer. Since then the Bank of California has sold 33 of its 74 or so branches in an attempt to restructure its operations. Sumitomo Bank of California bought 19, and Crocker National Bank, the fourth or fifth largest bank in the state, bought the remainder.

4) In 1978 Standard Chartered bid for Union Bancorp, the holding company for Union Bank (sixth largest in the State with total assets of \$4.3 billion). The acquisition received regulatory approval in March, 1979. Union Bancorp is recovering from the worst of its bad debt problems but its return on total assets was just 0.42% in 1977 which was somewhat lower than the average of the other big California banks and poor by comparison with the Chartered Bank of London's own return of 0.7% on \$478 million. (Economist, Jun 17, 1978, pp.124-127).

Appendix C

Japanese Minority Ownership of Subsidiaries

Both Bank of Tokyo and Dai-Ichi Kangyo have minority shares in foreign-owned US subsidiaries. Dai-Ichi Kangyo, with 4.5%, is one of the 32 owners of the Japan California Bank, together with the Long-Term Credit Bank (2.5%). All the other shareholders are Dai-Ichi's customers and it provides many of the officers. (Source: Private communication from a former officer).

The case of the Chicago Tokyo Bank is probably very similar. Bank of Tokyo owns 4.9% of this bank. There are 155 other stockholders, of whom 104 are individuals and 51 are Japanese corporations. (Institutional Investor, Sep. 1977, p.108).

This pattern of shareholding would seem to enable the parent banks to exercise de facto, but not de jure, control. The BHCA does not apply since no shareholder has 5% or more.

Appendix D

Economies of Scale

In this Appendix we look at some banks domiciled in Japan, Canada, the UK, and California. The test consists of fitting the standard stochastic growth model [Smyth et al, 1975] to a group of banks from each country and to the combined group. The model assumes that firms' growth rates represent random drawings from distributions of growth rates. The equation fitted is:

$$\ln S(t) = a + b \cdot \ln S(t-1) + e$$

where $S(t)$ represents assets, t is 1977, $t-1$ is 1969, and e is an error term. The coefficient b is the elasticity of Size at t with respect to Size at $t-1$. A $b = 1$ means that, within the sample, smaller and larger firms drew their growth rates from distributions with different means. A $b > 1$ means that the larger firms grew faster than did the smaller ones, and $b < 1$ means the reverse, or declining and increasing cost curves respectively. The null hypothesis is that $b-1 = 0$, or no economies/diseconomies of scale.

For Canada, the sample consists of the five largest banks. All have some representation in California and three have subsidiaries there. The UK group consists of the four largest clearing banks, one overseas bank, and the largest Scots bank. All maintain a presence in California, albeit indirect in the case of one, and three have subsidiaries. The fifteen Japanese banks include the 13 city banks and two other major industrial banks. Again, all are in the state, six have subsidiaries, and two are affiliated with a Japanese-owned bank. The Californian group consists of the seven largest banks in the state. The next two banks in size are British and Japanese-owned respectively.

The table presents the results for the four countries and the overall regression. For Canada, the UK, and the combined group we cannot reject the null hypothesis of no economies of scale, or constant costs. That is, we cannot reject the hypothesis that $b = 1$ at the 10% significance level. We would reject this hypothesis for the Japanese and Californian banks, but in directions opposite to those which would aid in explaining FDI.

The test is inconclusive for a number of reasons. First, the results might change depending on whether we use assets, deposits, number of employees, or something else as our measure of size. Second, we have not dis-aggregated the banks' activities. Volume/cost relationships might vary by line of business.

Table D-1

Stochastic Growth Model
(t-statistics in parentheses)

| | <u>a</u> | <u>b</u> | <u>1-b</u> | <u>\bar{R}^2</u> | <u>F</u> | <u>SER</u> |
|-------------------|--------------------|--------------------|---------------------|-------------------------------|----------|------------|
| Canada N=5 | 2.744* (2.596) | 0.822* (6.888) | 0.178 (1.425) | 0.921 | 47.5 | 0.070 |
| UK N=6 | -0.038 (-0.026) | 1.126* (6.822) | -0.126 (-0.765) | 0.901 | 46.5 | 0.216 |
| Japan N=15 | 2.790* (6.427) | 0.845* (17.011) | 0.155* (3.113) | 0.954 | 289.4 | 0.086 |
| California N=7 | -0.656 (-0.155) | 1.174* (16.434) | -0.174* (-2.430) | 0.978 | 270.1 | 0.161 |
| Overall N=33 | 0.705 (0.914) | 1.058* (12.038) | -0.053 (-0.656) | 0.818 | 144.9 | 0.233 |

* Indicates significance at the 10% level.

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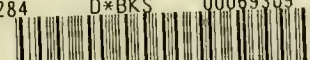
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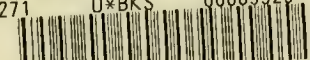
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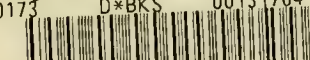
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